

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1 and 3-23 are pending in the application, with claims 1, 9, 12 and 18 being the independent claims. Claims 2 and 24 are sought to be canceled without prejudice to or disclaimer of the subject matter therein. Claims 1 and 3 are sought to be amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Allowable Subject Matter

Applicants gratefully acknowledge the Examiner's indication that claims 9-23 are allowable.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claim 24 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,353,604 to Grimwood *et al.* ("Grimwood"). Applicants have canceled claim 24, thereby rendering the rejection of claim 24 under 35 U.S.C. § 102(e) moot. Accordingly, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,137,793 to Gorman *et al.* ("Gorman") in view of

U.S. Patent No. 6,298,098 to Krasner *et al.* ("Krasner"). The Examiner has also rejected claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Gorman in view of Krasner and further in view of Franks, Lewis E., "Evaluation of the Effects of Notch Filters on Digital Data Transmission," *IEEE Transactions on Communication Technology*, pp. 447-449 (August 1970) ("Franks"). Based on the following remarks, Applicants respectfully traverse.

Applicants have canceled claim 2, and amended claim 1 to recite a CMTS including:

- a demodulator for receiving the signal bursts on the upstream channel;

- a media access controller (MAC) that generates for downstream transmission MAP messages that assign time slots in which cable modems may transmit signal bursts on the upstream channel, the MAP messages including idle slots that are assigned to no cable modems;

- a transmitter that transmits the MAP messages with the idle slots downstream to the cable modems; and

- an adaptive notch filter connected to the demodulator, wherein coefficients of the adaptive notch filter are adjusted to suppress noise on the upstream channel sensed during the idle slots.

Neither Gorman, Krasner nor Franks, either alone or in combination, teaches or suggests all of the features of independent claim 1. For example, neither Gorman, Krasner nor Franks, either alone or in combination, teaches "an adaptive notch filter connected to the demodulator, wherein coefficients of the adaptive notch filter are adjusted to suppress noise on the upstream channel sensed during the idle slots," as recited in claim 1.

First, the Examiner conceded that Grimwood "fails to teach the inclusion of idle slots in the MAC generated messages," as recited in claim 1. (Office Action at page 4).

Second, while Krasner describes computing a noise level during an empty slot, Krasner describes using the noise level measurement to compute an adaptive threshold for a signal detector to determine if a signal is detected. (Krasner at col. 4, lines 37-40). Nowhere does Krasner describe using the noise level measurement to adjust coefficients of an adaptive notch filter to suppress noise on the upstream channel, as recited in claim 1. Furthermore, while Krasner describes a direct current (DC) (i.e., zero frequency) notch filter in the demodulator (Krasner at col. 4, lines 17-18), nowhere does Krasner describe using the noise level measurements to adjust the DC notch filter.

Third, Franks does not supply the teachings missing from Grimwood and Krasner. Franks merely describes various approaches for evaluating performance impairments resulting from the insertion of a notch filter in a data transmission channel. (Franks at page 447). Nowhere does Franks describe adjusting coefficients of an adaptive notch filter to suppress noise on an upstream channel sensed during idle slots, as recited in claim 1.

Since neither Gorman, Krasner nor Franks, alone or in combination, teaches or suggests all of the limitations of claim 1, as amended, the combination of Gorman, Krasner and Franks fails to support a prima facie case of obviousness rejection of claim 1. Claim 2 is canceled, thereby rendering the rejection of claim 2 moot. Accordingly, the Examiner's rejection of claims 1 and 2 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Other Matters

The Examiner has objected to claims 3-8 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As set forth above, Applicants have amended the rejected base claim 1. For at least the reasons described above, claim 1, as amended, is patentable over Gorman in view of Krasner, and further in view of Franks. Accordingly, the Examiner's objection to claims 3-8 as being dependent upon a rejected base claim is rendered moot, and Applicants respectfully request that the objection be reconsidered and withdrawn.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Nicole D. Dretar
Attorney for Applicants
Registration No. 54,076

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1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

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